ON THE SYSTEMATICS OF THE GENUS *LITTOROPHILOSCIA* HATCH (ISOPODA, ONISCIDAE). (1)

(Whith 39 figures)

ALCEU LEMOS DE CASTRO
Museu Nacional — Rio de Janeiro

Introduction

In this paper the rank of genus is proposed for the subgenus *Littorophiloscia* Hatch, 1949 (type species: *Philoscia richardsonae* Holmes and Gay). A generic diagnosis is given and the distinctive characteres from its closely related genera are showed. Two other previously known species are here included and described: *L. compar* (Budde-Lund) (with the subspecies *compar* and *culebrae* (Moore) and *L. vittata* (Say).

The author wishes to express his sincere thanks to Dr. MILTON A. MILLER, of the Department of Zoology, University of California, Davis, for research facilities and for much helpful advice and criticism during the course of investigation. Thanks are also due to Dr. FENNER, A. CHACE JR. and Dr. THOMAS E. BOWMAN, of the Division of Marine Invertebrates, U.S. National Museum, for research facilities and loan of specimens.

The genus Littorophiloscia Hatch

The three American species proposed to be placed into this genus are all previously but insufficiently known up to date (except *L. compar*) and have been placed in different systematic positions. Thus apparently the affinities among them never were observed before. Careful study of these species has showed that they are morphologically very closely allied and inhabiting the same ecological situations, justifying their position in a same and distinct genus. It seems rather probable that *Philoscia culebroides* Van Name and *P. nomae* Van Name from Galapagos islands may also belong to the same genus.

Philoscia richardsonae Holmes and Gay and *P. culebrae* Moore have been placed into the genus *Halophiloscia* Verhoeff by VAN NAME (1936), VANDEL (1945 and 1949) and ARCANÇELI (1948) based on the fact that these species are also littoral and on some morphological characteres showed in the insufficient descriptions and illustrations, although nothing was known on the aspect of the genital appendage and the endopodites of the first male pleopods. HATCH (1947) has maintained the first mentioned species into the genus *Philoscia* Latreille and instituted for it the subgenus *Littorophiloscia* without sufficient characterization.

LEMOS DE CASTRO (1958) has transferred *P. culebrae* to *Alloniscus* Dana, a heterogeneus genus requiring a careful revision, by comparison with its closely allied form from Orchila, Venezuela, identified by VANDEL as *A. compar* Budde-Lund. But the male specimen described by VANDEL is quite different from the typical species of *Alloniscus*. Although VANDEL (1952) had conservated the Budde-Lund's species into this genus, he declares in a letter: "Il se pourrait, en effect, que le

1) This research was carried out while holding a John Simon Guggenheim Memorial Foundation Fellowship.

genre *Alloniscus* soit heterogene. En tout cas, *A. compar* B.L. est notablement different des grandes especes d'*Alloniscus*, telles que *pigmentatus* B.L. et *pallidulus* B.L. In recent paper, ARCANGELI (1958) affirms that the specimen from Orchila does not correspond to *A. compar* and belong to a different genus. Really, it certainly is not a *Alloniscus*, but it probably corresponds to the Budde-Lund's species. It is necessary to emphasize that Orchila is a locality very near from La Mck and Caracas (type localities of *A. compar*). A rank of subspecies of *L. compar* is here given for *P. culebrae* Moore.

Philoscia vittata Say has been considered either a species near to *Philoscia muscorum* Scopoly or merely a variety of this species. But *P. vittata* never was well described or figured so far and many of the references to Say's species might be referred to *P. muscorum*.

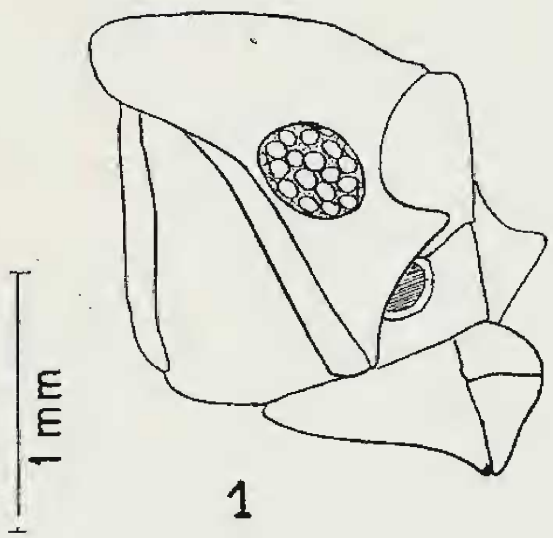
Judging by the Budde-Lund's generic diagnosis and by some typical species of *Alloniscus*, the three species in question show some important differences that it become inadmissible to place them in this genus. Indeed, it is very hard at first to admit that so fragile and small species can be placed in a same genus together with large strong, very convex, and somewhat conglobating species as *A. convexus* Dana, *A. pigmentatus* B. L., *A. pallidulum* B. L., etc. Although showing affinities with *Alloniscus* in some characteres such as the aspect of the maxillipeds, the sensorial organs of the integument, presence of "dactylian organ", etc., the species of *Littorophiloscia* bear some differences that seem to be of generic importance. They reach very small size (5 to 6 mm), with the body much more elongated and less convex, the abdomen always distinctly narrower than the thorax, and the abdominal epimera relatively much shorter than the typical species of *Alloniscus*. Besides the structure of the pleopods is quite different.

The general aspect of the body, the head with short and downward directed lateral lobes, and the two first male pereopods with the propodus and carpus noticeably tumid remember *Halophiloscia* Verhoeff, but the genital apophysis and the first male pleopods show remarkable differences. In *Halophiloscia* the genital apophysis is profoundly bifurcated at its extremity, a primitiv character representing a rest of the doubled genital apophysis of the marine forms. In *Littorophiloscia* the genital apophysis follow the general type of the Oniscinae, although *L. compar* has the extremity of this organ shortly bilobed, the deferent canals opening, however, at the habitual lateral position towards the apex.

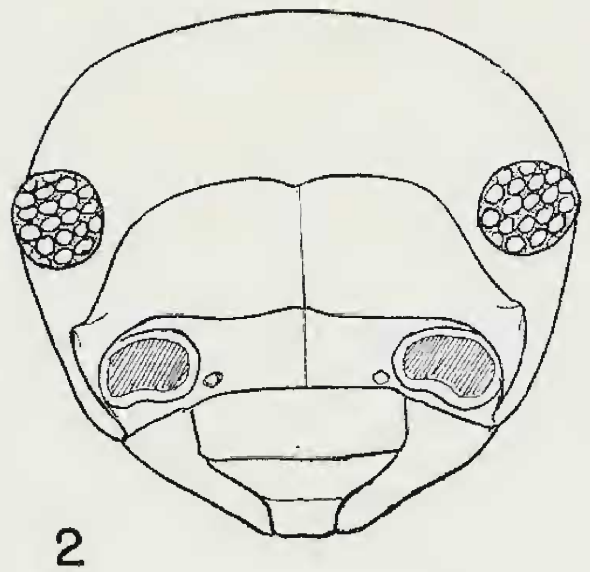
The genus *Littorophiloscia* occurs in the temperate part of the both sides of American continent, but if the information given by Dr. A. VANDEL is corrected, *L. compar* seems to be largely spreaded in tropical lands (Egypt and India), However, there is the possibility that the occurrence os this species in Egypt and Indie may represent a recent introduction. All the species are littoral, inhabiting sandy beaches above the high tide, line; they are found usually in grassy situations and under stones, pieces of wood, drift and rubbish.

Genus *Littorophiloscia* Hatch

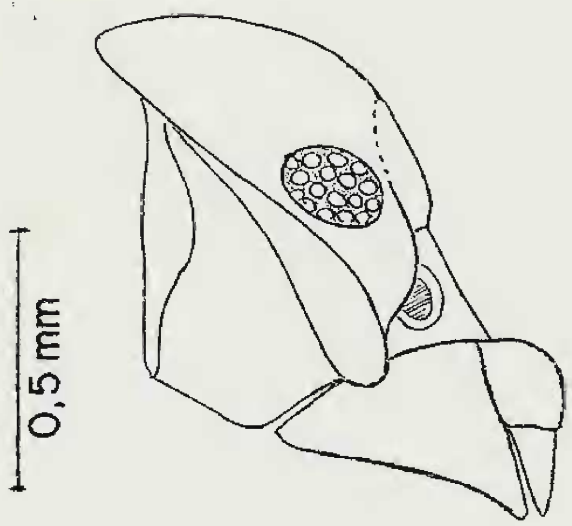
"Frontal line of the head pratically absent only indicated at the sides. Supra antennal line distinct. Eyes with numerous ocelli. Antennar flagellum tricarticulate, with the articles almost of the same size. Inner teeth of the first maxillae incised. Endite of the maxillipeds with penicilli and without teeth. Abdomen abruptly narrower than the thorax, the lateral angles of the third, fourth and fifth segments produced backwards. Sexual dimorphism in size (male smaller than the female) and in the first two pereopods".



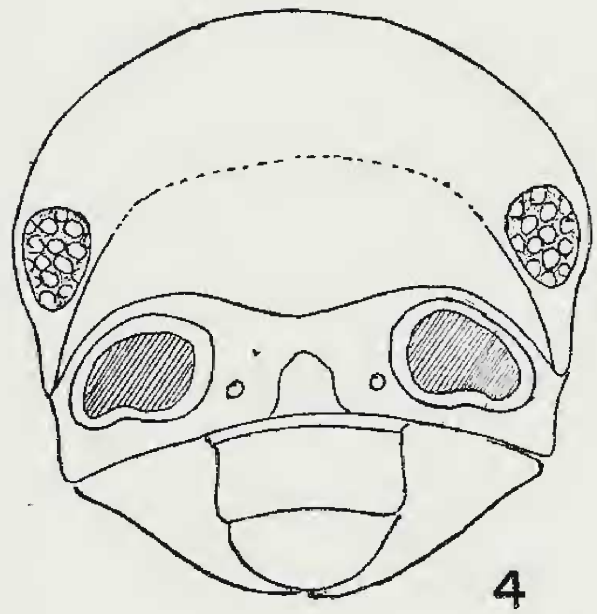
1



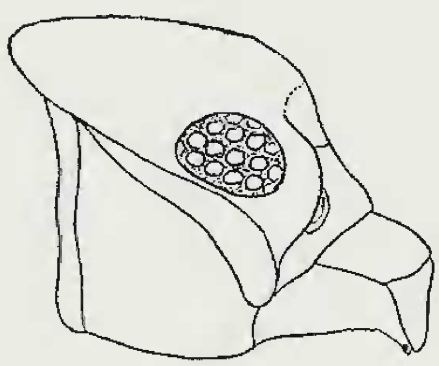
2



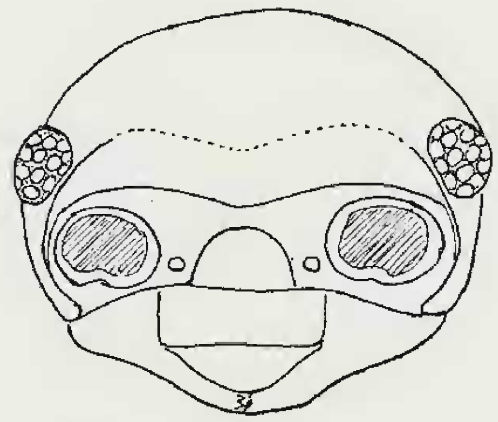
3



4



5



6

Head, lateral and front views. Figs. 1-2. **Alloniscus perconvexus** Dana. Figs. 3-4. **Halophiloscia couchi** (Kinahan). Figs. 5-6. **Littorophiloscia richardsoni** (Holmes and Gay). Figures with similar magnification: 3, 4, 5, 6.

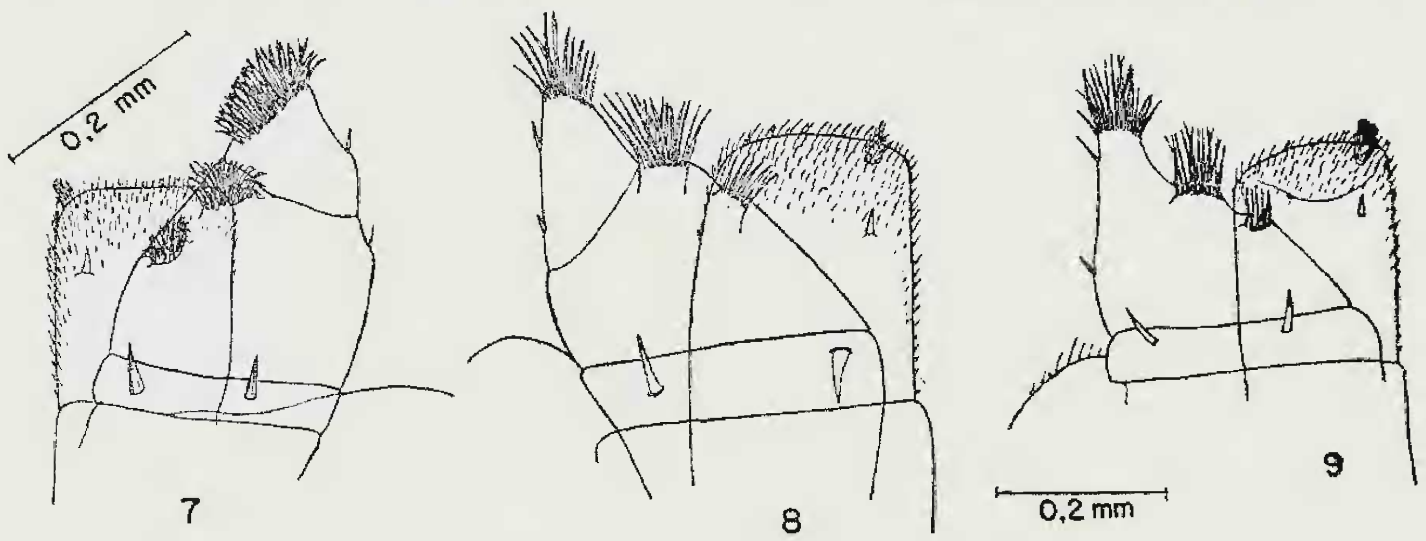
Type species: *Philoscia richardsonae* Holmes and Gay.

Key to the species of *Littorophiloscia*

1 — Abdomen very convex. Telson triangular, with the sides almost straight. Antennae relatively short, the flagellum smaller than the width of the head.

vittata (Say)

— Abdomen little convex. Sides of the telson distinctly concaves. Antennae of medium size, the flagellum larger than the width of the head or, at least equal. (2)



Maxillipeds. Fig. 7. **Alloniscus perconvexus** Dana. Fig. 8. **Halophiloscia couchi** (Kinahan). Fig. 9. **Littorophiloscia richardsoni** (Holmes and Gay). Figures with similar magnification: 8, 9.

2 — Propodus of the first and, in less extension, of the second pereopods largely expanded in their inferior aspect. Genital apophysis bilobulated at the extremity. (3)

— Propodus of the first two male pereopods scarcely expanded in their inferior aspect. Genital apophysis not bilobulated.

richardsonae (Holmes and Gay)

3 — Endopodites of the first male pleopods wide, with the lateral sides paralel, becoming abruptly narrowed towards the extremity.

compar culebrae (Moore)

— Endopodites of the first male pleopods narrowing gradually towards the extremity, the apice with a tooth-like expansion.

compar compar (Budde-Lund)

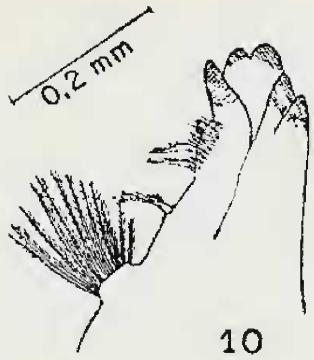
Littorophiloscia richardsonae (Holmes & Gay) new comb.

Figures 10-20

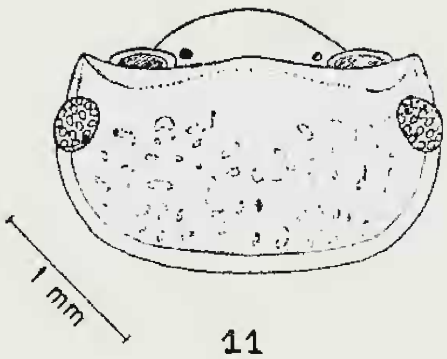
Philoscia richardsonae Holmes & Gay, 1909; 378, fig. 6; Stafford, 1912: 127, fig. 71; 1913: 170. Van Name, 1936: 172, fig. 89. (*Halophiloscia* group). Miller, 1938: 115.

Philoscia (*Littorophiloscia*) richardsonae Hatch, 1947, p. 192, fig. 194.

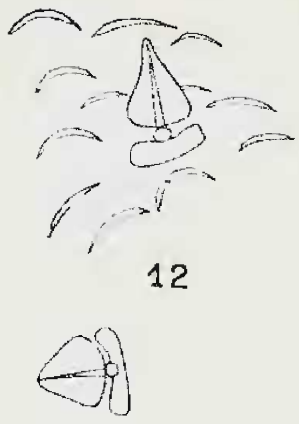
Diagnosis: — Surface of body smooth in small magnification, but minute low tubercles are visible in larger magnification. Head twice as large as long. Supra antennar line distinctly marked, slightly produced. Lateral lobes sub-acute in dorsal view. Eyes well developed with about twelve ocelli. Antennae long, about one-hair as long as the body. Antennar flagellum as long as the fifth joint of the peduncle, with the three articles about the same size or the second slightly smaller in the adults. Basal part of the maxilliped very large. Of the six inner group of the first maxillae, five are profoundly incised and one is smaller and acute. Dactylus and propodus of first male pereopods only slightly more expanded than in the females. Abdomen abruptly much narrower than the thorax, the lateral extremities of the abdominal appendages acute and shortly backward directed. Exopodites of the first male pleopods nearly triangular in outline with rounded angles; endopodites conical,



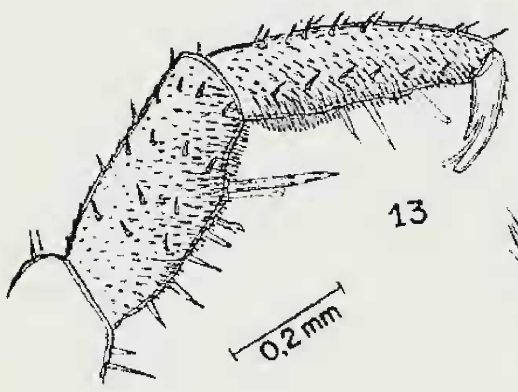
10



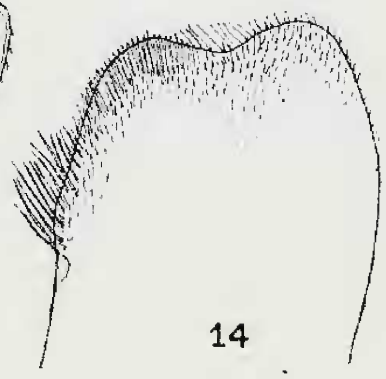
11



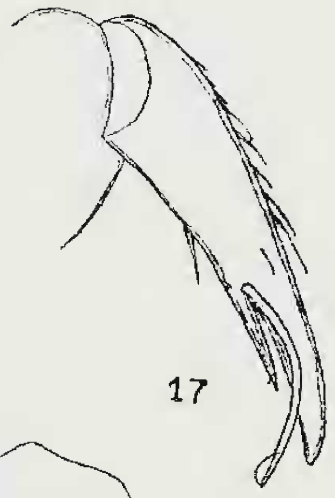
12



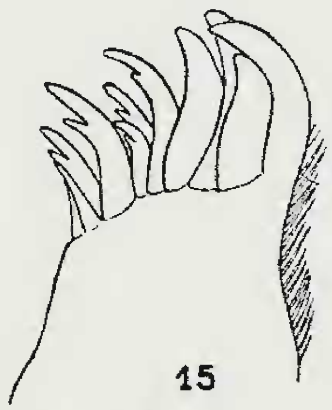
13



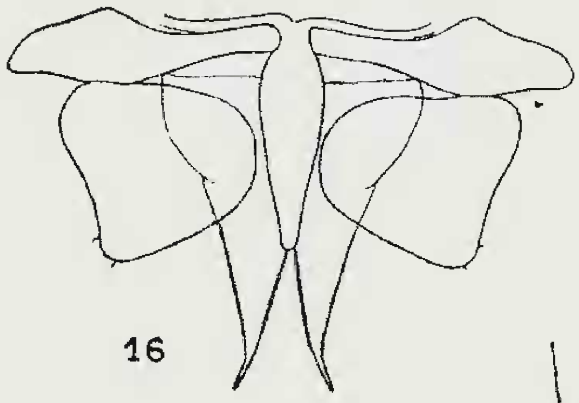
14



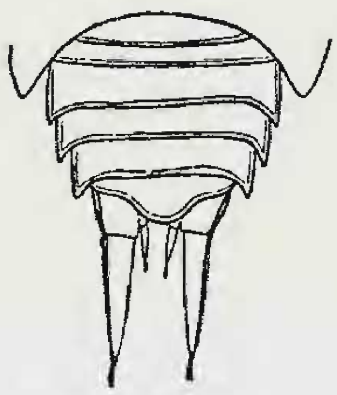
17



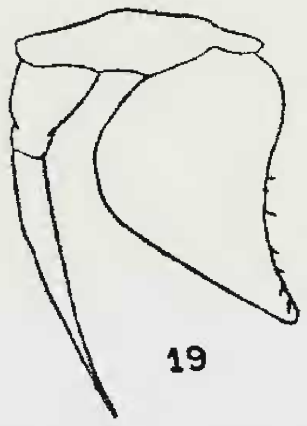
15



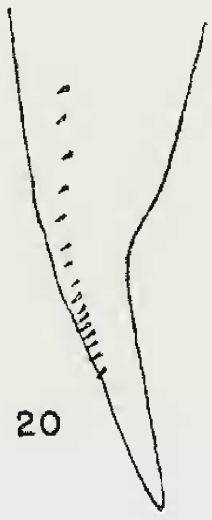
16



18



19



20

Figs. 10-20. Littorophiloscia richardsoni (Holmes and Gay). 10. Mandible. 11. Head from above. 12. Scale setae. 13 Three last articles of the first pereopod. 14. Second maxilla. 15. First maxilla. 16. First male pleopods. 17. Dactylus. showing the "dactylian organ", 18. Abdomen. 19. Second male pleopod. 20. Extremity of the endopodite of the first male pleopods. Figures with similar magnification: 10, 14, 19; 11, 18; 13, 16; 15, 17.

becoming extremely fine towards the apex with a row of small spines on the anterior aspect near the extremity. Exopodites of the second male pleopods triangular elongated with the outer sides accentualy concave; endopodites ending in a narrowed tip slightly longer than the exopodites. Telson twice as broad as long, with the posterior margin concave on either side of the narrowly rounded apex. Protopodites and exopodites of the uropods subconical, with the outer margin nearly straight and the inner one convex; the protopodites are rather long, exceeding the top of the telson and the exopodites are long and slender, about three times the lenght of the protopodites and the endopodites.

Colour: — Dorsal view reddish brown and, as usual, with two longitudinal rows of yellow small spots, one on the either side of the body. The cromatophores are somewhat separated, specially on the antennae and uropods. Head mottled with yellow spots. Lower surface yellow, the pereopods with isolated cromatophores, of the colour reddish brown.

Type locality: San Diego, Callifornia.

Location of types: U.S. National Museum, Washington.

Measurements: Holmes & Gay gave 5 mm. The largest female specimens examined reach 7 mm. The males are rather smaller than the females.

Geographic distribution: This species has been found in California (San Diego — Holbes & Gay, Laguna Beach — Stafford, Alameda — Miller, San Nicolas Is. — Van Name) and Washington (San Juan Co. and Whidbey Is.).

Material examined: California: San Diego (types); Alameda, January 28, 1935, 5 males and 26 females (collection M.A. Miller), in salt marsh grassland, above high tide line; Bodega Bay, March 14, 1958, 3 males and 9 females (A.L. Castro), in sandy beach under stones.

Remarks: *L. richardsonae* may be distinguished by the long antennae and uropods, the narrower abdomen and first male pleopods.

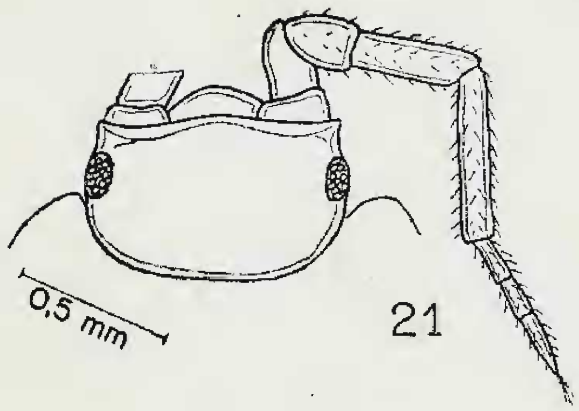
Littorophiloscia vittata (Say) new comb.
Figs. 21-30

Philoscia muscorum var, *sylvestris*, Blake, 1931: 351; Procter, 1933: 248.

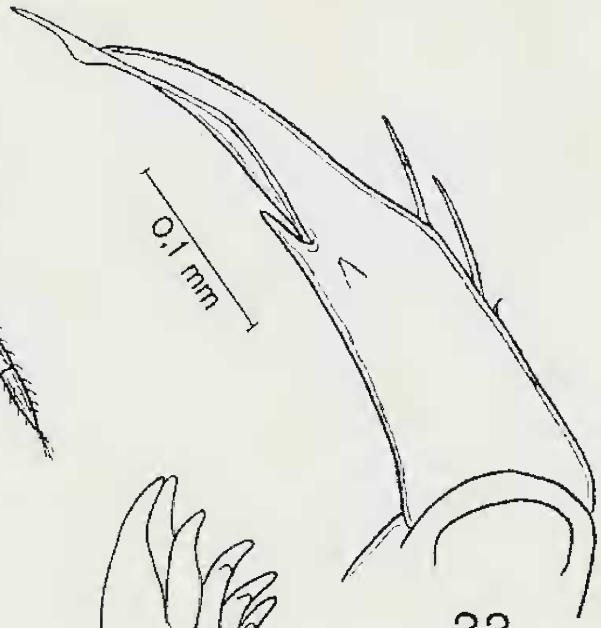
Philoscia vittata Say, 1818, p. 429 (orig descr.). De Kay, 1844: 50. Withe, 1847: 99. Verril and Smith, 1873: 569. Harger, 1879: 157; 1880: 306 (descr.), pl. I. fig. 1. Budde Lund, 1885: 209. Underwood, 1886: 361. Richardson, 1900: 305; 1901: 565; 1905 (descr.): 605, figs. 661-663. Paulmier, 1905: 181, fig. 53. Rathbun, 1905: 45, check list: 4. Fowler, 1912: 233 (descr.), pl. LXVI. Sumner, Osburn and Cole, 1913: 661. Pratt, 1916: 379, fig. 606 Kunkel, 1918: 240 (descr.), fig. 77. Van Name, 1936: 115, fig. 52.

Although the bibliography of this species is a large one, its knowledge is very poor so far. The Say's original description is very much brief and no type locality is given. HARGER (1789) says that the specimens studied by Say are provinient from Great Egg Harbour and Van Name considers that place the type locality. The majority of authors cited above only gave record reference of the species. The illustrations and subsequent descriptions after Say are also very incompletes and sometimes divergents. Say described the telson as follows: "tail, segments subequal, terminal one rounded at tip, not longer than the preceding one' 'and Harger says: "the sixth segment is acute but not prolonged behind". Really in the Harger's figure representing a dorsal view of the body, the telson is showed very acute. However, Richardson (1905, p. 605, fig. 662 f) figured the telson with a rounded tip, according the Say's original descripition.

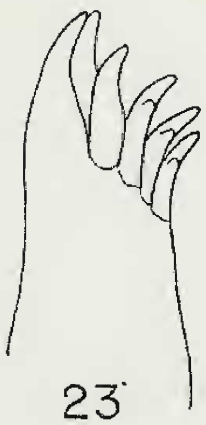
L. vittata has been equated with *P. muscorum* (Scopoli) by BUDDE LUND (1885 209) and with the var. *sylvestris* of the same species by BLAKE (1931: 351). The others authors have been considered *L. vittata* as closely related to *P. muscorum*, if distinct of it.



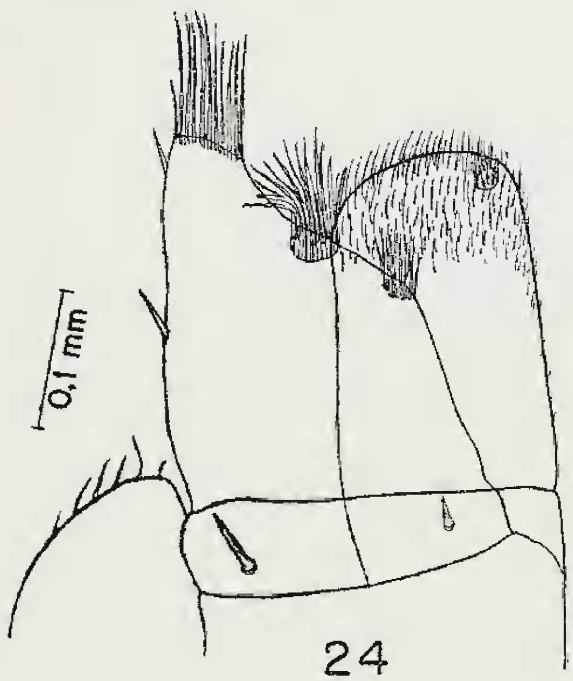
21



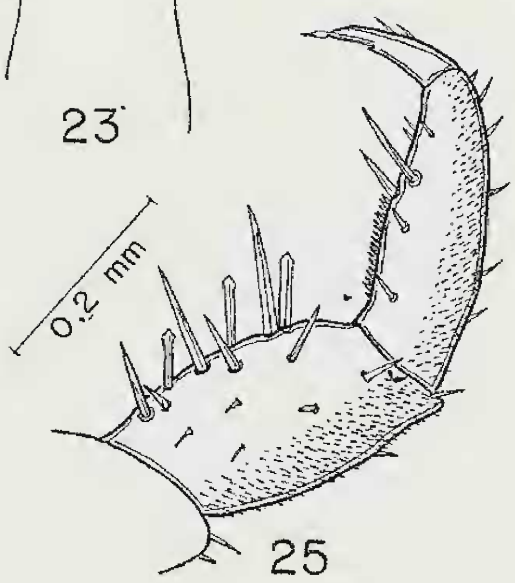
22



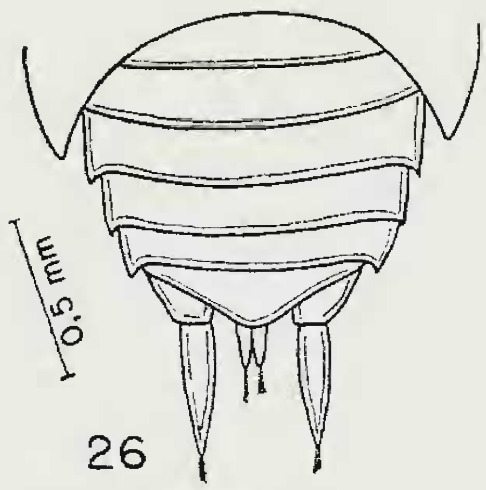
23



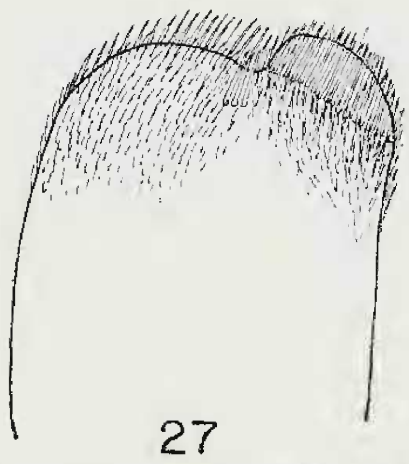
24



25



26



27

Figs. 21-27. **Littorophiloscia vittata** (Say). 21. Head and antenna from above. 22. Dactylus of the first male pereopod. 23. First maxilla. 24. Maxilliped. 25. Three last articles of the first male pereopod. 26. Abdomen. 27. Second maxilla. Figures with similar magnification: 21, 26; 23, 24, 27.

The study of the specimens from the collection of the U. S. National Museum provinient from Great Egg Harbour (New Jersey), Barnstable (Massachusetts) and Delaware, believed to belong to this species, lead to conclusion that they are morphologically quite different from *P. muscorum* and more related to the species of *Littorophiloscia*. Some of the species of the referred museum are labeled as *P. culebrae*.

No type specimens were examined. Probably the types have been destroyed and I was not succesful in founding them at any American Museum.

Diagnosis: Body oval, elongated, convex. Surface of the body pratically smooth, covered with small scale-setae. Head not closely articulated with the first thoracic segment. Lateral lobes almost absent, the front outline straight when seen from above. Eyes relatively small, convex, with about 10 small ocelli. Second antennae short, the fifth article of pudencie twice less than the fourth; flagellum of the same length of the fifth article of the peduncle, its third joint is a little larger than the others. Anterior lateral angles of the first thoracic segment very short and rounded. Epimera of the thoracic segments relatively short. Carpus and propodus of the first pereopods and, in less extension, of the second pereopods distinctly more expanded in their inferior aspect in the male than in the female. Dactylian organ with a very long and slender apex. Abdomen distinctly narrower than the thorax, strongly convex and tapering, the postlateral extremities of the third, fourth and fifth abdominal segments weakly visible from above. Telson triangular, with pratically straight side outlines and a rounded and obtuse apex. The basal branches of the uropods as long as the top of the telson; exopodites rather long and gradually tapered, about twice longer than the endopodites. Exopodites of the first male pleopods triangular, with the apical extremity largely rounded and the external side little concave; endopodites with extraordinary expanded lateral lobe and a short and wide apex bearing about ten teeth. Vasa deferentia very thick and strong. The endopodites of the male pleopods of the second pair are very slender at the extremity and much more larger than the exopodites.

Color: The specimens examined are very much discoloured. But the vestigial colorations give an indication of lighther margins and two broad dorsal vittae, in accordance with the Say and Harger's descriptions.

Type locality: Great Egg Harbour (according Harger and Van Name). In the original description Say give only this information: "inhabits the United States, common".

Location of types: Cabinet of Academy (Academy of Natural Sciences of Philadelphia). The types were probably dry specimens (as it has usually been observed with the Say's type specimens of others crustaceans) and consequently they were destroyed. White (1847) informs that there are .type specimens in the collection of British Museum.

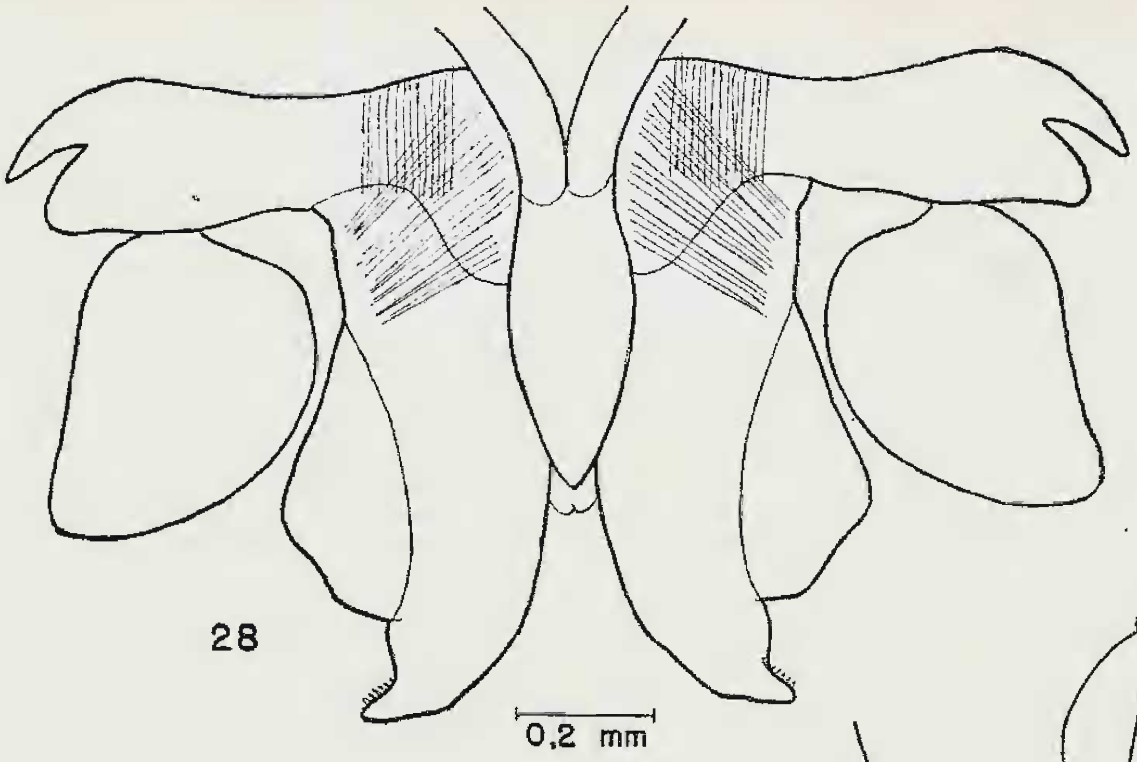
Measurements: Say (1818) gave the length of one-fifth of an inch and Harger (1879) records the lenght as 8 mm and the breadth 4 mm. The largest specimen examined by the writer were between 6,5 to 7 mm in length and 3 mm in width. Generally the males are smaller and fewer in number than the females.

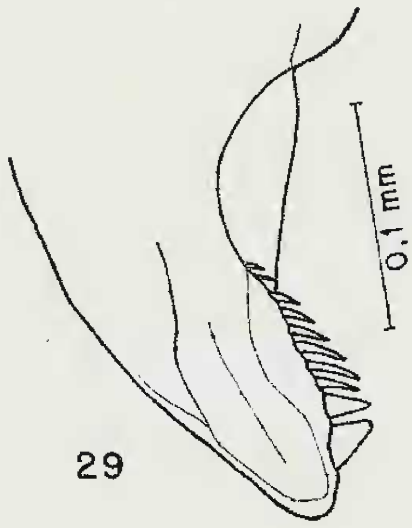
Geograpihc distribution: This species occurs on the E. coast of the United States and Canada, with ranges from Nova Scotia to South Carolina.

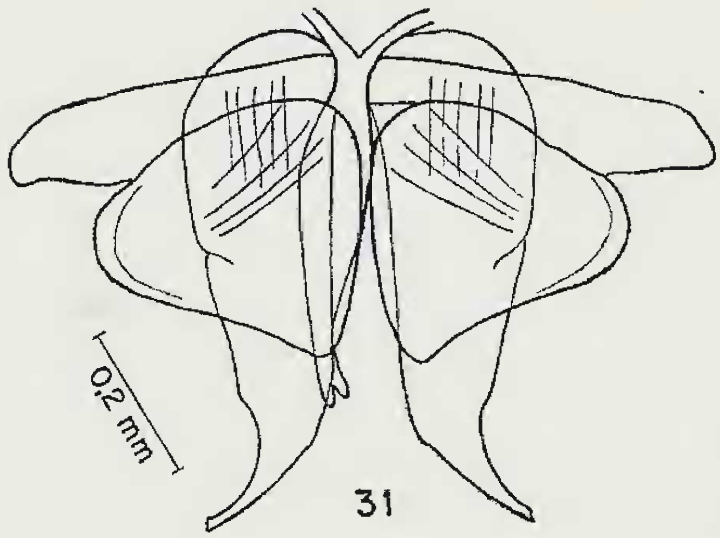
Material examined: Virginia: Fisherman's Island, Northampton Co., J.P.E. Morrison, July 6, 1935, 1 male and 5 females (U.S. Nat. Mus. No. 87.033), under large logs and wet rushes or drift at high tide line; Hog Island, June 18, 1924 (U. S. Biological Survey), 7 females (U. S. Nat. Mus. No. 58.421).

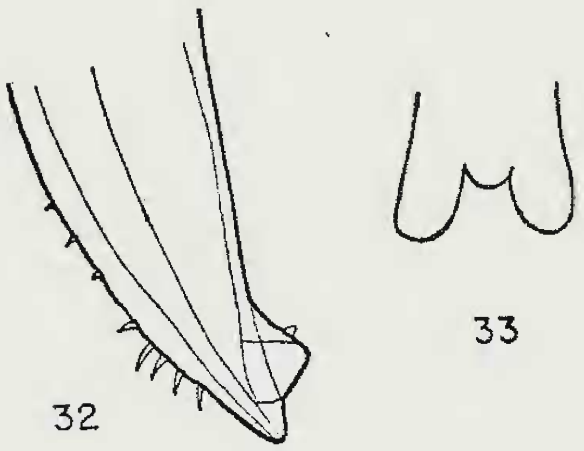
Massachusetts: Barnstable, Aug. 30, 1875 (U. S. Fish Com.), 1 male and 1 female (U. S. Nat. Mus. N.ò 2963).

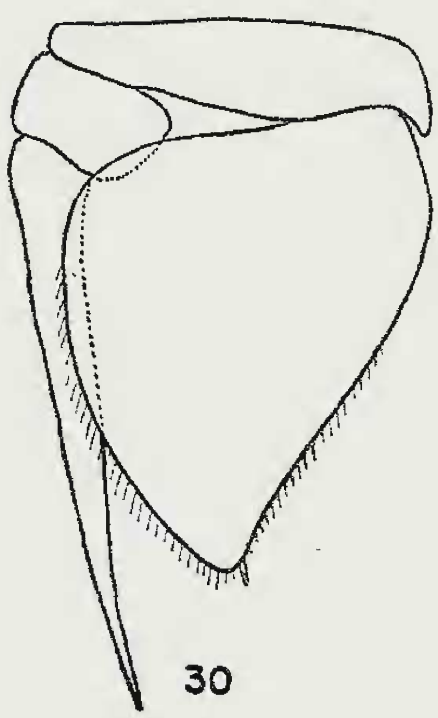
New Jersey: Great Egg Harbour (Wm. Stimpson), 1 male and 4 females (U. S. Nat. Mus. N.ò 4.407).











Figs. 28-30. **Littorophilsocia vittata** (Say). 28. First male pleopods. 29. Extremity of the endopodite of the first male pleopods. 30. Second male pleopod. Figs. 31-33. **Littotorophiloscia compar compar** (Budde-Lund). 31. First male pleopods. 32. Extremity of the endopodite of the first male pleopods. 33. Extremity of the genital appendage. Figures with similar magnification: 28, 30; 29, 32.

Delaware: Smyrna, April 3, 1937 (C. Cottam), 2 males and 6 females (U. S. Nat. Hus. N.ò 87.007, labeled as *Philoscia culebrae*), in salt marsh; Smyrna, April 3, 1937 (C. Cottam), 7 males and 23 females (U. S. Nat. Mus. N.° 87.010, labeled as *P. culebrae*), in salt marsh; Bombay Hook (C. Cottam), 2 males and 1 female (U. S. Nat. Mus. N.ò 87.032).

South Carolina: Edisto Island, April 3, 1941 (Holmes), 1 female U.S. Nat Mus.). N.° 87.035), under debris near by the beach.

Nova Scotia: Gilbert Pt., Yarmouth Co. (E. L. Bousfield), July 9, 1958, 9 males and 11 females (National Museum of Canada), under debris and stones.

Remarks: *L. vittata* is easily distinguished from the others species of the genus by the relatively shorter antennae, more convex abdomen, lateral sides of the telson straight and principally by the characteristic aspect of the endopodites of the first male pleopods.

The specimens from Woods Hole, Massachusetts, and Flushing, Long Island, New York, refered by VAN NAME (1936: 170) to *P. celubrae* may be in reality L. vitata.

Littorophiloscia compar (Budde-Lund) new comb.

Alloniscus compar Budde-Lund, 1893: 124 (orig. descr.). — Dollfus, 1893: 235. — Van Name, 1936: 218. — Vandel, 1952: 112, figs. 30-33. — Arcangeli, 1958: 242.

Diagnosis: Body covered with scale-setae broad and short, inserted on well developed tubercles. Head without visible frontal line; supra antennal line distinctly marked. Lateral lobes of the head produced, downward directed. Thorax convex, the posterior lateral corners of the segments I and II rounded and the remaining ones are angular. Without area of glandular pores. Abdomen rather narrow and tapering. The abdominal segments III to V inclusive have only small, sharp, posteriorly directed, apressed points. Telson with sinuously concave sides outlines and the median part rather broadly rounded behind. Antennae relatively short; flagellum with three articles almost of the same length, the second being a little the shortest. Outer lobe of the first maxillae with 10 teeth, four bifurcated at the extremity, Maxillipeds with somewhat narrow palp bearing three lobes ornated with setae very numerous in the two upper ones and reduced to one ou two in the lowest. Pereopods rather long and strong; first and, to a less extension, in the second pair withe propodus and carpus noticeably tumid and expanded in the males, bearing numerous setae. First male pleopods with simple and triangular exopodites; endopodites narrowing gradually towards the extremity, the apices with a tooth-like expansion and a small spine on the supero-external margin and about 8 teeth on the infero-external region. Male pleopods of the second pair with trianguler exopodites and the endopodites ending in a acute extremity, a little large than the external ramus.

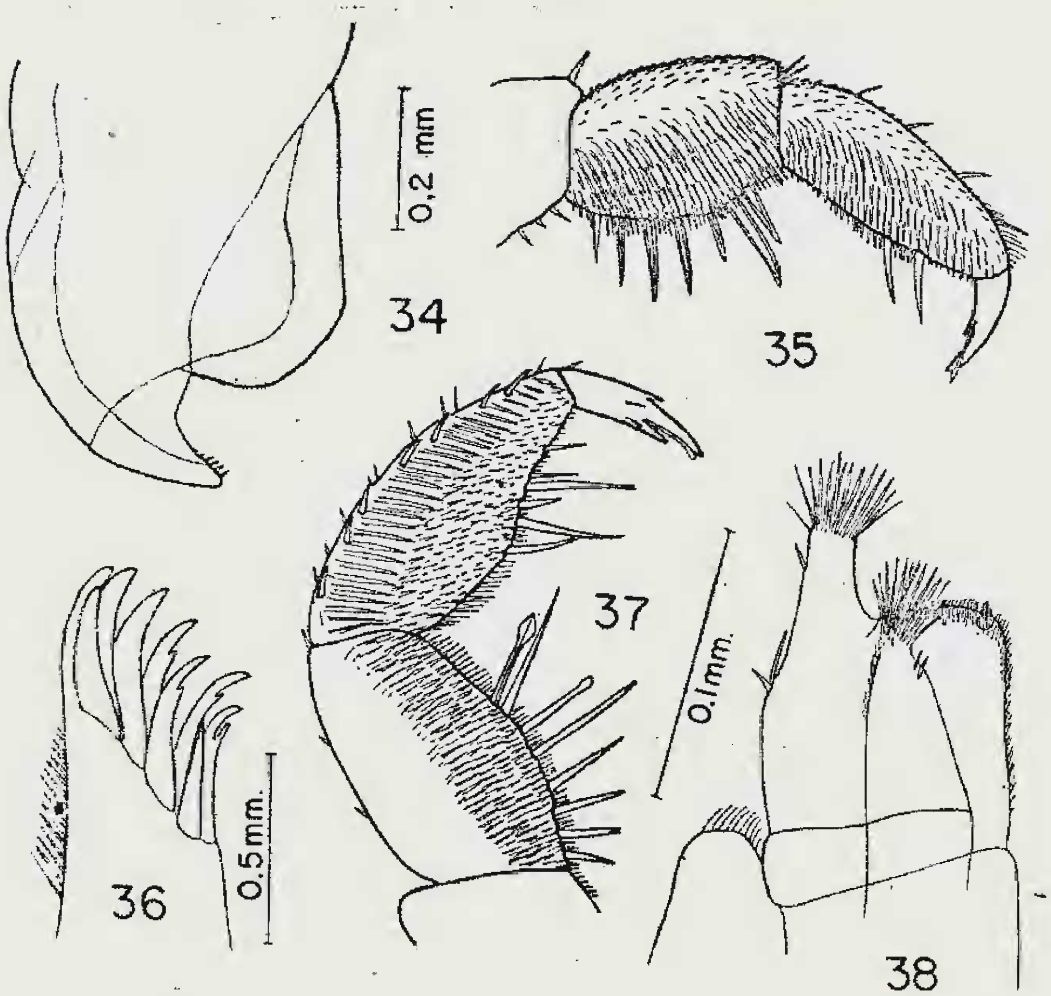
Type locality: La Moka and vicinity of Caracas, Venezuela.

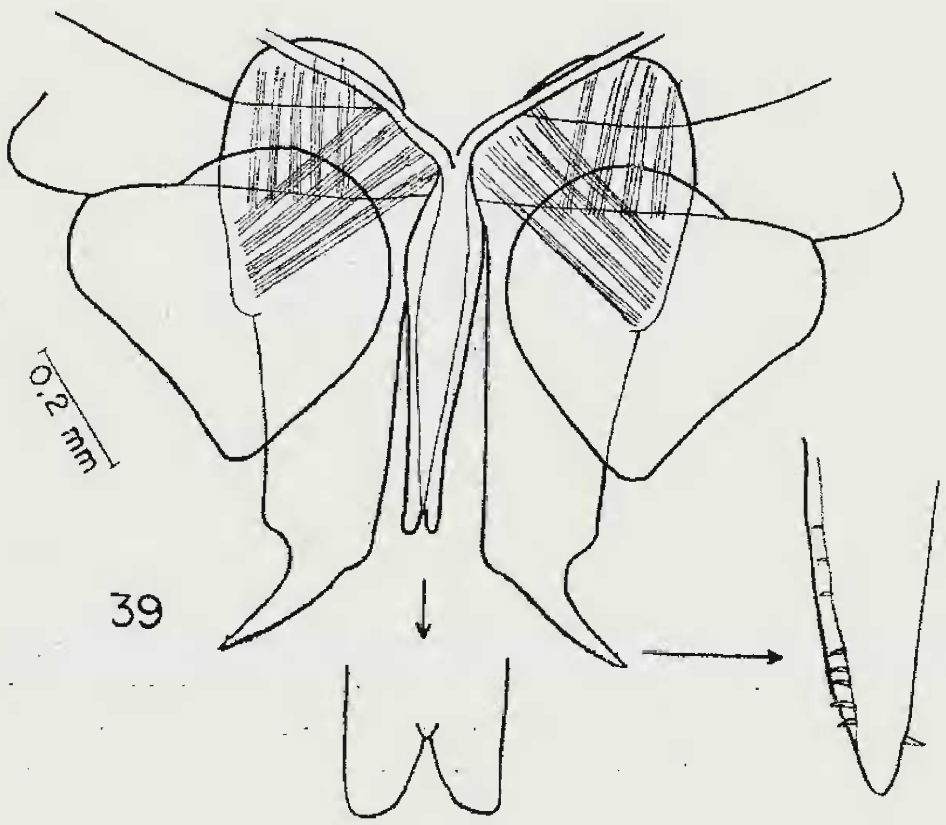
Measuremen's: According Budde-Lund: Length, 4-4,5 (5)mm, width 2 — 2,2 mm. VANDEL gave 3 mm length (male specimen).

Geographic distribution: This species seems to be largely spreaded in tropical lands. According information given by Dr. A. Vandel, this species has been also found in Akaba Gulf, Red Sea and Gulf of Bengal, Waltair (Indie). *L. compar* occurs also in Florida and South Brazil.

Material examined: Florida, 1 male and 1 female (U. S. Nat. Mus. collection, cat. n.° 68.407); Cabo Frio, State of Rio de Janeiro (Brazil), Otto Schubart, October 16, 1938 (Museu Nacional collection, cat. n.° 863), 10 males and 36 females.

Remarks: This species is here treated as corresponding to *A. compar* Budde-Lund, according the description and ilustrations given by Vandel (1952, p. 112). As it was said above, Arcangeli considers that the male specimen studied by Vandel





Figs. 34-35. **Littorophiloscia vittata** (Say) (male specimen from Nova Scotia). 34. Endopodite of the first male pleopods. 35. Three last articles of the first pereopod. 36-39. **Littorophiloscia compar culebrae** (Moore). 36. First maxilia. 37. Three last articles of the first male pereopod. 38. Maxilliped. 39 First male pleopods.

belongs to a differente species. Although the Budde-Lùnd's description for *A. compar* is very brief and incomplete, I prefer to agree with Vandel because the localities where the specimens studied by both authors are placed very near.

L. compar may be distinguished by the bilobulated genital appendage and by the aspect os the endopodites of the first male pleopods.

Littorophiloscia compar subsp. culebrae (Moore), new comb.

Philoscia culebrae Moore, 1901: 176, pl. 11, figs. 13-17. — Richardson, 1905: 604, fig. 660. — Van Name, 1924: 194; 1936: 168, figs. 86, 87.

Halophiloscia culebrae Vandel, 1945: 242; 1949: 8. — Arcangeli, 1948: 482.

Alloniscus culebrae Lemos de Castro, 1958: 2, figs. 1-6.

The affinity of *P. culebrae* with *A. compar* was *been* demonstrated by Lemos de Castro. The external aspect of both is very similar and only the endopodites of the first male pleopods show small but constant differences.

A rank of subspecies of *L. compar* is here proposed for the Moore's species. The subspecies *culebrae* may be distinguished by have the endopcdites of the first male pleopods wide and with the sides parallel, narrowing abruptly before the extremity; the apices of these ramus are provided with a small spine on the superoexternal margin lacking the tooth-like expansion found in the subsp. *compar*.

Tipy locality: Culebra Island, east of Puerto Rico.

Location of types: U. S. National Museum.

Geographic distribution: This subspecies has been found only in Puerto Rico and Culebra Island.

ADDENDUM

The present paper was given to publication four years ago, but only now its impression has become possible. As in this period of time some publications on terrestrial isopods of North America have apperead, some considerations have to be made in addition to what was above written about *Littorophiloscia vittata* (Say).

Recently two papers by George A. Schultz were published, in which this author throroughly disagrees to what has been asserted here as to the validity of the species and systematic position cf *Philoscia vittata* Say, In the first of the papers referred to (1963, pp. 26-29) he describes a new species *Philoscia robusta* based on specimens identical to those that we have studied and considered as belonging to the Sayùs species. In the second paper (1965, p. 107) he reduces *P. vittata* to a synonym of *P. muscorum* (Scopoli), based on the fact of having identified specimens from Stony Brook, Long Island, New York, as corresponding undoubtedly to this introduced Old World species.

According Schultz, "the habitat was on high ground several miles from the sea shore, and the animals were abundant and the only isopod encountered in the habitat" and that "the name *P. vittata* Say, 1818, has in the past been used as the name for specimens collected from similar environments in northeastern United States". More specimens were taken later around foundations of outbuildings near the shore and under logs and organic wastes on the high beach down to the maritime drift line on the beach itself. The author also says that in the same habitate *P. robusta* can be also found. Further on, he goes on saying the following lines concerning to *P. robusta*: "it could easily be mistaken

for *P. vittata* after superficial examination". Now, if this similarity exists, could not Say's *P. vittata* correspond to that which Schultz described as *P. robusta* and have been mistaken for *P. muscorum* by the subsequent authors after Say? Unfortunately there are no type specimens to solve the question, but according to several authors the description of P. vittata is based on specimens from Egg Harbour, New Jersey. The specimens studied by Van Name deposited in the American Museum and referred to *P. vittata* in this moncgraph do not correspond to *P. muscorum* but to *P. robusta* and some of these specimens are from Egg Harbor, considered the type locality.

Anyway, being or not being *P. vittata* a valid species, *P. robusta* will no be kept into the genus *Philoscia* in the restricted sense in which it is considered now-a-days, including only species from the Old World. It seems to be more convenient the inclusion of the species into the genus *Littorophiloscia* as it is proposed in the present paper.

RESUMO

A categoria de gênero é proposta para o subgênero *Littorophiloscia* Hatch, 1949 (espécie-tipo: *Philoscia richardsonae* Holmes e Gay). É forecida uma diagnose do gênero e discutida as suas afinidades com os gêneros *Alloniscus* Dana e *Halophiloscia* Verhoeff.

Além de *L. richardsonae,* outras duas espécies já conhecidas são aqui incluídas no gênero e descritas detalhadamente: *L. compar* (Budde-Lund) (com duas subespécies: *compar* e *culebrae*) e L. *vittata* (Say).

Um histórico das espécies é feito, mostrando que as mesmas têm sido colocadas em diferentes gêneros, não tendo sido notado, aparentemente, o estreito parentesco que possuem. Possivelmente, outras espécies já descritas pertencerão também a êste gênero, como, por exemplo, *Philoscia culebroides* Van Name e *P. nomae* Van Name das Ilhas Galapagos.

BIBLIOGRAPHY

ARCANGELI, A.
1958 — Le specie di Isopodi terrestri che furono erroneamente assegnate al genere *Alloniscus* Dana. *Mem. Mus. Civ. Stor. Nat. Verona,* vol. VI: 239-252, tav. I-IV, figs. 1-7.

BLAKE, C. H.
1931 — Distribution os New England wood-lice. (On Isopoda Oniscoida, third paper). *Occas. Papers Boston Soc. Nat. Hist.,* V: 349-355.

BUDDE-LUND, G.
1885 — Crustacea Isopoda Terrestria per familias et genera et species descripta. 1-319. Hauniæ.

DANA, J. D.
1856 — Catalogue and description of Crustacea collected in California by Dr. John L. Le Conte. *Proc. Philadelphia Acad. Nat. Sci.,* VII: 175-177.

DE KAY, J. E.
1844 — *Zoology of New York,* or *the New York Fauna,* Part VI, Crustacea: 70 pp, 13 pls.

FOWLER, H. W.
1912 — The Crustacea of New Jersey. *Rep. N. J. Museum,* 1911: 29-650, pls. I-CL.

HARGER, O.
1879 — Notes on New England Isopoda. *Proc. U. S. Nat. Mus.,* II: 157-165.
1880 — Report on the marine Isopoda of New England and adjacent waters. *In*: *Rep. U. S. Comm. of Fish and Fisheries,* for 1878, Part 6: 297-462, pls. I-XIII.

HATCH, M. H.
1947 — The Chelifera and Isopoda of Washington and adjacent regions. *Univ. Wash. Publ. Biol.* 10 (5) : 155-274, pls. I-XVIII.

FUNKEL, B. W.
1918 — The Arthrostraca of Connecticut. *Conn. State Geol. Nat. Hist. Survey*, 26: 261 pp, 84 text-figs.

LEMOS DE CASTRO, A.
1958 — On the systematic position of some American species of *Philoscia Latreille* (Isopoda, Oniscoidea). *Amer. Mus. Novit.*, 1908: 1-10, figs. 1-19.

MOORE, H. F.
1901 — Report on Porto Rican Isopoda. *Bull. U. S. Fish Comm.*, 20, part 2: 163-176, pls. VII-XI.

PAULMIER, F. C.
1905 — Higher Crustacea of New York City. *Bull. New York State Mus.* 91: 117-189, figs. 1-59.

RICHARDSON, H.
1900 — Synopses of North American Invertebrates. The Isopoda. *Amer. Naturalist*, XXXIV: 207-230, 295-309, figs 1-16.
1901 — Key os the isopods of the Atlantic coast of North America with descriptions of new and little-known *species. Proc. U. S. Nat. Mus.*, 23: 493-579, figs. 1-34.

RICHARDSON, H.
1905 — A monograph of the isopods of North America. *Bull. U. S. Nat. Mus.*, 54: I-LIII, 1-727, figs, 1-740.

SAY, THOMAS
1818 — An account of the Crustacea of the United States. *Journ. Philadelphia Acad. Sci.* I (Isopoda, 393-401, 423-433).

UNDERWOOD, L. M.
1886 — List of the described species of fresh-water Crustacea from America, north of Mexico. *Bull. Illinois State Lab. Nat. Hist.*, II: 323-386.

VAN NAME, W. G.
1936 — The American land and freshwater isopod Crustacea. *Bull. Amer. Mus. Nat. Hist.*, 71: 1-535, figs. 1-323.

VANDEL, A.
1952 — Étude des isopodes terrestres récoltés au Venezuela par le Dr. G. Marcuzzi. *Mem. Mus. Civ. Stor. Nat. Verona*, 3: 59-203, 97 figs.

VERRIL, A. E. and SMITH, S. I.
1874 — Report on the Invertebrates animals of Vneyard Sound. *Rep. U. S. Comm. Fish and Fisheries* for 1871-1872, I: 484 pp., 38 pls. (Isopoda by O. Harger) (First separates distributed in 1873).

WHITE, A.
1847 — *List of the Crustacea of the British Museum*. London. Pp. I-VIII, 1-143 (Isopoda, 93-111).

ADDITION TO BIBLOGRAPHY

SCHULTZ, GEORGE A.
1963 — Philoscia robusta, a new species of terrestrial isopod crustacean in Southeastern United States. Jour. Elisha Mitchell Sci. Soc., 79 (1): 26-29.
1965 — The reduction of *Philoscia vittata* Say, 1818, to a synonym of *Philoscia muscorum* (Scopoli, 1763). Crustaceana, 8 (1): 107-108.